

Applicant : Kitamura et al.
Serial No. : To Be Assigned
Filed : Herewith
Page : 2 of 8

Attorney's Docket No.: 5-142US1 / CI-A0229Y1P-US

Amendments to the Specification:

Please replace the original paper copy of the Sequence Listing with the substitute paper copy of the Sequence Listing filed herewith.

At page 1, line 1, please delete subheading:

DESCRIPTION

Please amend the title to read as:

MAST CELL-DERIVED MEMBRANE PROTEINS

Please insert the following paragraph after the title:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is the National Stage of International Application No. PCT/JP2003/013921, filed October 30, 2003, which claims the benefit of Japanese Patent Applications Serial No. 2002-316680, filed on October 30, 2002, and 2002-354165, filed on December 5, 2002. The contents of all applications are hereby incorporated by reference in their entireties.

Please replace the paragraph beginning at page 5, line 7, with the following amended paragraph:

In mutating an amino acid , it is preferable to change it into another amino acid that allows the properties of the amino acid side chain to be conserved.—~~For example, amino acid side chain characteristics are: side chains having hydrophobic amino acid residues (A, I, L, M, F, P, W, Y, V), hydrophilic residues (R, D, N, C, E, Q, G, H, K, S, T), residues with aliphatic side chain (G, A, V, L, I, P), residues with side chain containing a hydroxyl group (S, T, Y), residues with a side chain containing sulfur (C, M), residues with a side chain containing a carboxylic acid and amide group (D, N, E, Q), basic residues (R, K, H), and aromatic residues (H, F, Y, W)~~

(amino acids are shown by the one letter code in the parentheses). Based on the properties of side chains, amino acids can be divided into, for example, the following groups: hydrophobic amino acids (A, I, L, M, F, P, W, Y, V), hydrophilic amino acids (R, D, N, C, E, Q, G, H, K, S, T), amino acids with an aliphatic side chain (G, A, V, L, I, P), amino acids with a side chain comprising a hydroxyl group (S, T, Y), amino acids with a side chain comprising sulfur (C, M), amino acids with a side chain comprising a carboxylic acid and an amide group (D, N, E, Q), basic amino acids (R, K, H), and aromatic amino acids (H, F, Y, W) (in the parentheses, amino acids are shown using the one letter code).

Please replace the paragraph beginning at page 5, line 15, with the following amended paragraph:

It is already known that a protein having a modified amino acid sequence, in which one or more amino acids are deleted, added, and/or substituted with another amino acid, can maintain the original biological activity (Mark D.F. et al. Proc. Natl. Acad. Sci. USA 81: 5662-5666 (1984); Zoller M.J. and Smith M. Nucleic Acids Res. 10: 6487-6500 (1982); Wang A. et al. Science 224: 1431-1433 (1984); Dalbadie-McFarland G. et al. Proc. Natl. Acad. Sci. USA 79: 6409-6413 (1982)).

Please replace the paragraph beginning at page 18, line 23, with the following amended paragraph:

The antisense oligonucleotide derivatives or modified forms of the present invention act upon cells producing a protein of the invention by binding to the DNA or mRNA encoding the protein, inhibiting its transcription or translation, promoting the degradation of the mRNA, and inhibiting the expression of the protein, thereby resulting in the inhibition of the protein's function.

Please replace the paragraph beginning at page 18, line 27, with the following amended paragraph:

An antisense oligonucleotide derivative or modified form of the present invention can be made into an external preparation, such as a liniment or a poultice, by mixing with a suitable base material which is inactive against the derivative or modified form.

Please replace the paragraph beginning at page 18, line 30, with the following amended paragraph:

Also, as needed, the derivatives or modified forms can be formulated into tablets, powders, granules, capsules, liposome capsules, injections, solutions, nose-drops, and freeze-drying agents by adding excipients, isotonic agents, solubilizers, stabilizers, preservatives, pain-killers, and such. These can be prepared by following usual methods.

Please replace the paragraph beginning at page 18, line 34, with the following amended paragraph:

The antisense oligonucleotide derivatives or modified forms are given to a patient by directly applying them onto the ailing site or by injecting them into a blood vessel so that they will reach the site of ailment. An antisense-mounting medium can also be used to increase durability and membrane-permeability. Examples are, liposomes, poly-L-lysine, lipids, cholesterol, lipofectin or derivatives of these.

Please replace the paragraph beginning at page 19, line 3, with the following amended paragraph:

The dosage of an antisense oligonucleotide derivative or modified form of the present invention can be suitably adjusted according to the patient's condition and used in desired amounts. For example, a dose range of 0.1 to 100 mg/kg, preferably 0.1 to 50 mg/kg can be administered.